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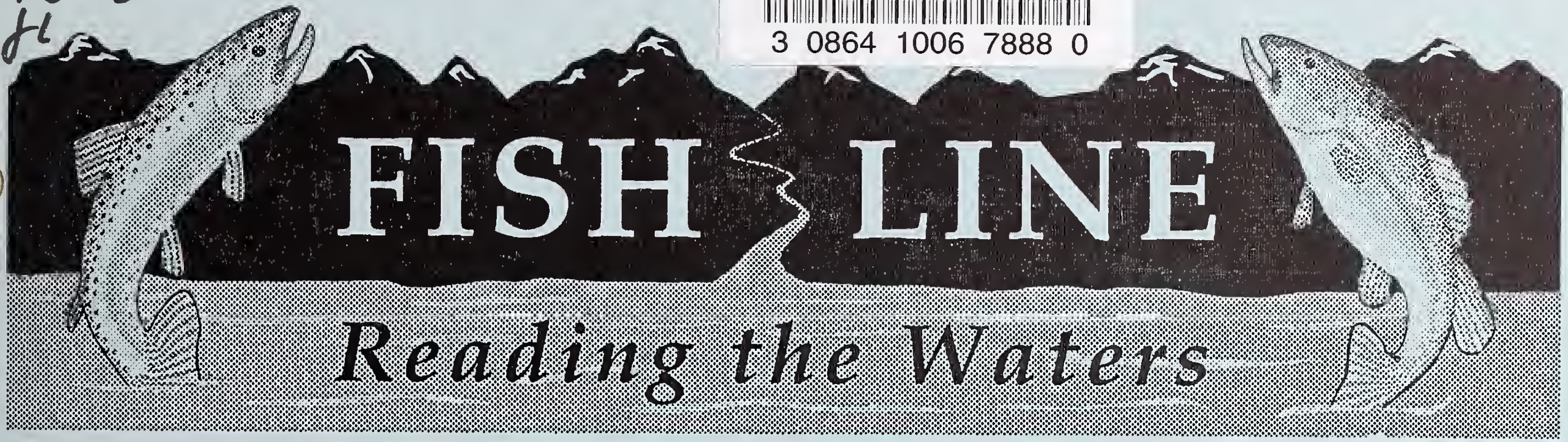

FISH LINE

Reading the Waters

Vol. 4, No. 1 *Produced by the Fisheries Division of the Department of Fish, Wildlife and Parks* *January 1992*

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Missouri River Basin Instream Flow Reservations

An important and far-reaching water allocation process is currently taking place in the Missouri River basin above Fort Peck Dam. During this process, the Board of Natural Resources and Conservation (Board) will consider the requests of several government entities to acquire water reservations in this portion of the basin. A total of 40 applications for consumptive water uses and instream flows has been submitted to the Board. These include 18 municipalities, 18 conservation districts, the Department of Health and Environmental Sciences, Bureau of Reclamation, Bureau of Land Management and the Montana Department of Fish, Wildlife and Parks.

What is a water reservation? A water reservation is a water right that allows the holder to set aside water to maintain instream flows or for future consumptive use. The water reservation process was established by the 1973 legislature through passage of the Montana Water Use Act, which also required the state to issue permits for new water uses.

Water reservations differ from water use permits in several ways:

- Water use permits are issued by the Department of Natural Resources and Conservation (DNRC) to private individuals as well as public entities. Water reservations are granted only by the Board and only to public entities.
- Once a water use permit is granted, water usually must be put to use within two or three years. Water reservations can be put to use several years or decades into the future.
- A water reservation can be obtained for instream uses whereas a water use permit cannot.
- A water reservation can be later modified, reallocated or revoked by the Board, whereas a water use permit cannot unless DNRC officially establishes that the water is not being put to beneficial use in a timely manner or that other conditions of the permit are not being met.

A water reservation proceeding was originally established in the Missouri River basin by the 1985 legislature. The legislature recognized the threat of losing Montana's water to downstream states and directed that a basin-wide proceeding be undertaken by DNRC to reserve Missouri River basin water for future uses in Montana. This proceeding may be the last chance for Montanans to plan for their future water needs as well as to protect their water from competing future downstream uses.

In 1989, the legislature divided the Missouri River basin's reservation process into two parts: 1) that portion of the basin above Fort Peck Dam, and 2) that portion of the basin below Fort Peck Dam, including the Little Missouri River basin. Applications to reserve water above Fort Peck Dam had to be submitted by July 1, 1989 and by July 1, 1991 for water below Fort Peck Dam and the Little Missouri River basin.

The main advantage of a water reservation is time. Once approved, those eligible to use reserved water have a longer time period to put the water to beneficial use and still maintain the early priority date. A reservation allows for planned allocation of water for future use and is also the primary legal means of establishing instream flows in Montana.

Montana water law states that a water reservation "...shall not adversely affect any rights in existence at that time" [85-2-316(9)MCA]. Any reservations granted by the Board will have a priority date of July 1, 1985, a date established by the legislature. Therefore, persons who have valid water rights with a priority date earlier than July 1, 1985, cannot be affected by water reservations. Only those persons who obtain permits for new water uses after July 1, 1985, could be subject to the instream reservations. These persons would be "junior" water users and would be subject to the "senior" instream water rights of the Department (DNRC).

The draft Environmental Impact Statement (EIS) required by law on water reservation applications has been completed by DNRC. The public comment period on the draft ended September 16, 1991. Following publication of a final EIS, a contested case hearing is scheduled to be held during the month of February, 1992. This hearing will

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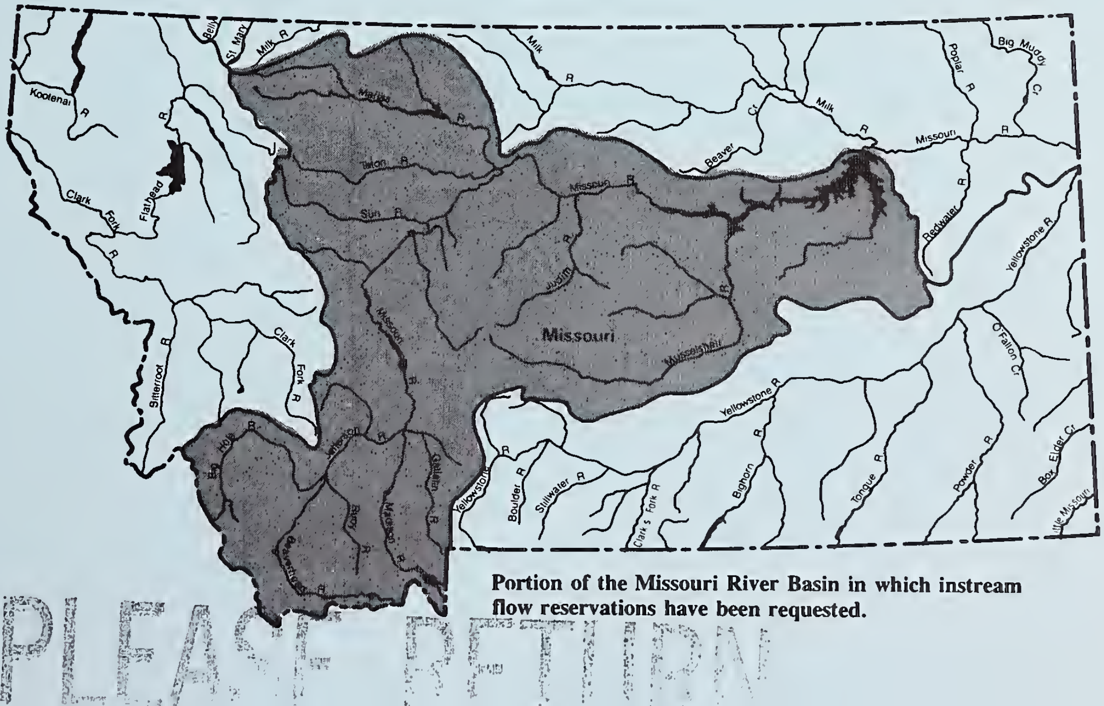

Portion of the Missouri River Basin in which instream flow reservations have been requested.

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Missouri River Basin Instream Flow Reservations

Continued

allow reservation applicants and other interested parties to present their cases to a hearings examiner. The Board will then consider the evidence and the public comments submitted when making its final decision on the applications, which by law must be issued by July 1, 1992.

Why did Montana Department of Fish, Wildlife and Parks submit an application for instream flows in the Missouri River basin? The water reservation process is a continuation of MDFWP's stream conservation and restoration program which was begun in the early 1960's (see related article on page 2). Except for the recently authorized pilot water leasing program, the water reservation process is the only legal means Montana Department of Fish, Wildlife and Parks has to obtain instream flows. Instream flow reservations have been requested on 249 rivers and streams in the Missouri basin above Fort Peck Dam (see map). A reservation process of this magnitude will likely never happen again in this part of the Missouri basin, and it may be the last chance to establish instream flows above Fort Peck Dam on such a large scale.

Because fish, wildlife and recreation are specifically identified in the statutes as beneficial water uses, MDFWP is using the reservation process to protect fish habitat to help ensure there will be future fishing opportunities. The habitat of stream-dwelling fish is composed of three components: (1) the physical stream channel itself; (2) the water quantity required to fill the stream channel; and (3) the quality of that water. Instream flow reservations are designed to meet the water quantity component of stream habitat.

Water reservations do not make any new water appear in a stream. At best, they only preserve the status quo of existing flow conditions because of the prior water rights of existing water users. So, unfortunately for fish, if a stream has low flows now, it will still have low flows if a water reservation is granted. However, the reservation does help to ensure those low flows will not get any worse due to new appropriations.

Instream reservations for fish are needed to:

- Maintain their living space;
- Protect spawning and juvenile rearing areas;
- Protect their food supply; and
- Protect the quality of the water they are living in.

Living Space

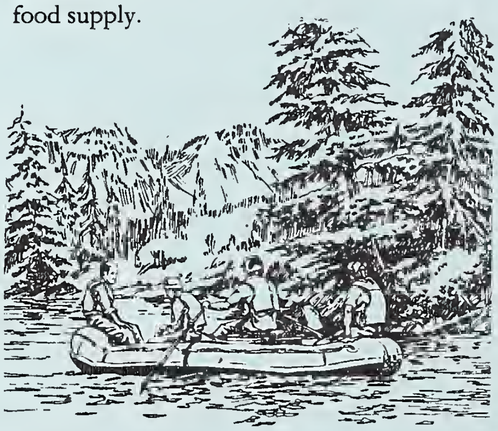
Fish inhabiting a stream occupy specific habitats comprised of several components, including a preferred range of water velocities and depths. Quantity and quality of this physical habitat is influenced by the magnitude of the flows. Through its impact on fish habitat, flow is believed to primarily regulate fish abundance . Simply stated, following long-term periods of low flows, fish numbers tend to decrease in response to the shrinking habitat. Conversely, long-term periods of higher flows allow the population to expand. Sufficient instream flows are essential for maintaining viable game fish populations at levels that are commensurate with the stream's biological capabilities and that satisfy the expectations of the angling majority.

Spawning and Rearing

Flows also affect the spawning and juvenile rearing areas of stream dwelling game fish. Stream riffles and side channels are typically the prime sites chosen for spawning and rearing of young. These sites also are those most sensitive to flow reductions. Consequently, the production of young recruits needed to sustain stream fisheries is strongly tied to the magnitude of flows.

Food Supply

All aquatic organisms depend on some lower form of plant or animal life for food. These lower life forms also have specific water requirements that are necessary to sustain their growth and reproduction. The primary food of Montana stream-dwelling gamefish is aquatic invertebrates, which have their greatest production in stream riffles. Reduction in the numbers of these aquatic organisms ultimately reduces the abundance of those organisms which feed upon them, namely, fish. Since riffles are shallow and highly sensitive to flow reductions, the health and well-being of game fish populations and, in turn, the quality of the angling experience depend, in part, on the maintenance of sufficient riffle habitat to protect the fishes food supply.



Water Quality

The quality of the water in a stream is also important in maintaining fish populations. Some of the consequences of lowered streamflows are higher water temperatures, increased amounts of dissolved solids, increased nutrient concentrations and lower dissolved oxygen levels, all of which are potentially harmful to aquatic life. Thus, instream flow reservations, by maintaining the present streamflows, are necessary to prevent the further deterioration of water quality during low flow periods.

By acquiring instream water reservations, MDFWP hopes to maintain habitat in the Missouri River and many of its tributaries for fish populations that provide important recreational opportunities for the people of Montana and the nation.

River Conservation

Program and History

The framework for a statewide stream conservation and restoration program was developed in the early 1960s by personnel of the Montana Department of Fish, Wildlife and Parks (MDFWP). This program focused on those three components required to maintain or restore stream conditions for the benefit of fisheries. Those components are:

- The retention of a natural stream channel that includes proper meanders, stream-side vegetation and other physical features conducive to fish and fish food production.
- The quality of the water flowing in these channels has to be such that it is not detrimental to fish and fish food production.
- The quantity of water or stream flow in the channel has to be sufficient to ensure adequate to optimum fish and fish food production.

The 1963 Montana Legislature passed the first stream preservation act (Montana Stream Protection Act) that protected the physical features of streams. This act gave MDFWP authority to regulate state and local government activities involving stream channels. MDFWP also has agreements with numerous federal agencies to comply with this act. The Stream Protection Act was reauthorized and made permanent in 1965.

Ten years later, the Natural Streambed and Land Preservation Act of 1975 was passed. This law, which extended the responsibility for protecting the physical features of streams to include private parties, is administered by the Conservation Districts with the participation of MDFWP.

In 1969, the legislature passed several amendments to state law that protect water quality. The primary responsibility for enforcing Montana's water quality laws resides with the Montana Department of Health and Environmental Sciences (MDHES). MDFWP, with it fisheries biologists distributed widely across the state, cooperates with the MDHES and employs one person who acts as a coordinator between the two agencies.

The issue of ensuring that our streams have an adequate quantity of water has been the most difficult goal to achieve. Efforts to provide a legal mechanism to protect instream flows began in 1969, when Rep. James Murphy of Kalispell introduced legislation allowing MDFWP to file claims on unappropriated water in portions of 12 of our highest quality trout streams, many of which are known as "Blue Ribbon" trout streams. These instream claims became known as "Murphy Rights." In the Missouri River basin, parts of the Missouri River, the Gallatin, Madison, Yellowstone and Smith rivers and Big Spring Creek were included in that legislation. West of the Continental Divide, portions of the Flathead River and its three forks, the Blackfoot River and Rock Creek were included.

Four years later, in 1973, a new water law, the Montana Water Use Act, was passed. Among other changes, this act authorized state agencies, political subdivisions of the state, and federal agencies to apply to the Board of Natural Resources and Conservation for reservations of water for a variety of purposes including instream flow for fish, wildlife and recreation.

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MONTANA

FISHING REGULATIONS

WHAT'S NEW IN 92

Fishing regulations for 1992-1994 have been approved by the Fish, Wildlife and Parks Commission. The new regulations, which become effective on March 1, 1992, include a number of changes that are important to Montana anglers.

New printed regulations will be available in mid-February 1992, but anglers may obtain information about the changes by contacting the Montana Department of Fish, Wildlife and Parks office in Helena, or a regional office.

The following is a brief summary of some important changes in 1992-1994. This is not a complete list of all changes; anglers should review printed regulations when they are available.

STATEWIDE

Paddlefish Tags: All paddlefish anglers (regardless of age) will be required to have paddlefish tags for fishing on either the Yellowstone or the Missouri rivers. Each paddlefish angler will be limited to two tags per season.

Jugs on Setlines: The new regulations prohibit the use of jugs or other floating devices attached to setlines.

Live Bait Fish: Sunfish, bullheads (catfish family) and yellow perch will not be allowed for use as live bait. This regulation is intended to reduce the potential for distribution of these species to new waters.

Aquatic Insects ("Hellgrammites"): Aquatic insects may be used as bait for winter fishing on streams with an extended whitefish season (exceptions include the Big Hole River and any stream where live bait is prohibited).

WESTERN DISTRICT

Ice Fishing: Anglers may use up to two poles or lines with two hooks per line to fish through the ice on all lakes in the Western District. No more than two poles or lines may be used on any water in the Western District.

Bitterroot River: Anglers will be limited to three rainbow or brown trout, only one over 14 inches for the mainstem and portions of the East and West forks. Special catch and release regulations for trout will be in effect from Tucker Crossing to Florence Bridge and 1 mile downstream from Darby to Como Bridge.

Western District (continued)

Catch and Release For Bass: Bass anglers will be required to release all bass caught from June 1 through June 30 on the following waters: Abbot Lake near Bigfork, Church Slough (Flathead River), Echo Lake near Bigfork, Lake Mary Ronan, Lower, Middle and Upper Thompson Lakes, and Noxon Rapids Reservoir.

Lake Trout — Lake Whitefish: For all waters in the Flathead River drainage, anglers may take 10 lake trout under 26 inches or 9 lake trout under 26 inches and one over 36 inches. The lake whitefish daily/possession limit will be 50 fish.

Georgetown Lake: A portion of Georgetown Lake shoreline and all Georgetown Lake tributaries will be closed to fishing from April 1 to July 1 to protect spawning rainbow trout.

Kootenai River Tributaries: A number of streams in the Kootenai River drainage will be open on the third Saturday in May through July 15. The early closure is intended to protect spawning bull trout. The streams include Blue Sky Creek, Clarence Creek, Keeler Creek, Quartz Creek, Stahl Creek, and West Fork Quartz Creek.

CENTRAL FISHING DISTRICT

Boulder River near Big Timber: The daily/possession limit will be two trout, only one over 13 inches, except the reach from Natural Bridge to 2-mile Bridge will be catch and release only for rainbow trout, artificial lures only.

Lake Limits: The daily/possession limit for trout in a number of lakes will be reduced from 10 to 5. The affected lakes include Axolotl Lakes, Quake and Cliff Lakes (Madison drainage), Dailey Lake (Yellowstone drainage), Ferguson, Foolhen, Tahepia, and Waukena Lakes (Big Hole drainage), Rat Lake (Gallatin drainage) and Scott Lake (Beaverhead drainage).

Wilderness Limits: All waters within the Bob Marshall, Great Bear and Scapegoat Wilderness areas will have wilderness limits for trout unless otherwise specified under exceptions. This regulation change affects a number of streams and lakes in the area from Augusta to Browning. Anglers should review the regulations for the waters they plan to fish.

Madison River: For the river reach between Varney Bridge and Ennis Lake, all rainbow trout must be released.

EASTERN DISTRICT

Bass Limit: The daily limit for bass (large and smallmouth) will be changed from 10 to 5 fish except for Fort Peck Reservoir where the limit will continue to be 10.

Setlines: The use of setlines has been standardized for a number of Eastern reservoirs. For Fort Peck Reservoir, Dredge Cut Trout Pond, Fresno Reservoir, Nelson Reservoir, and Tiber Reservoir, anglers may fish the entire year with two lines with two hooks per line, except that up to six lines with six hooks per line may be used to fish through the ice.

Montana Department of
Fish, Wildlife & Parks

Fisheries Division
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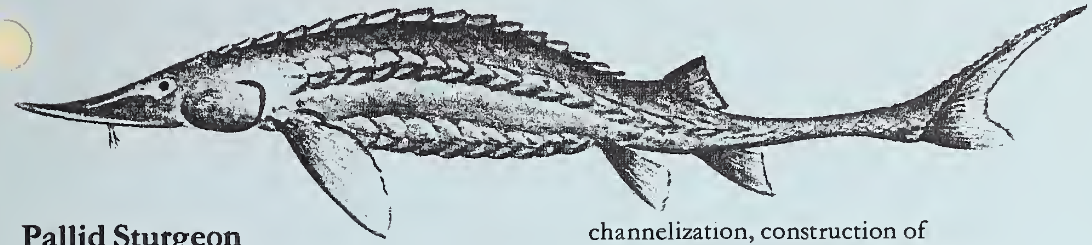
Threatened and Endangered Species Update



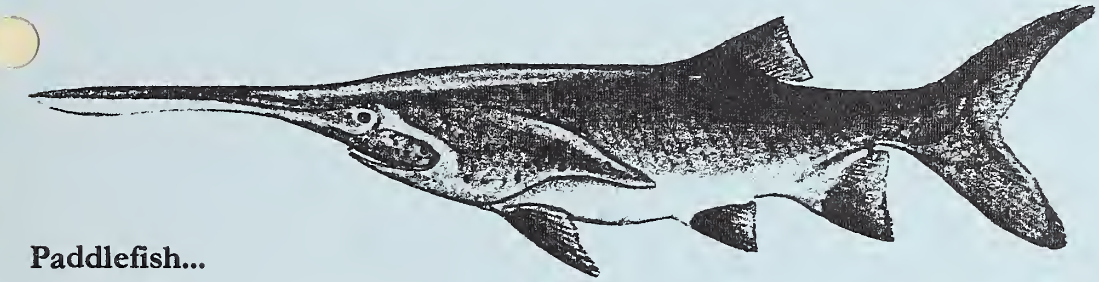
Pallid Sturgeon

Up until a year ago there were no fish species listed as threatened or endangered in Montana by the federal government. That changed on October 9, 1990, when the U.S. Fish and Wildlife Service (USFWS) classified the **pallid sturgeon** as endangered under the Endangered Species Act (see "Dinosaurs of the Deep" by Pat Clancey, *Montana Outdoors,* 1991). The State of Montana supported the listing of the pallid sturgeon.

The pallid sturgeon is one of the largest fish found in the Missouri, Mississippi, and lower Yellowstone rivers. This bottom-dwelling fish has a distinctive flattened, shovel-shaped snout. The species has experienced a dramatic decline throughout its approximately 3,500-(river) mile range over the past 20 years.

Nearly all of the pallid sturgeon's habitat has been modified through river channelization, construction of impoundments, and related changes in flow regimes. These changes have blocked the pallid sturgeon's movements, destroyed or altered its spawning areas, reduced its food sources or its ability to obtain food, and altered water temperatures and other environmental conditions necessary for the fish's survival. Commercial fishing also has probably played a role in the decline. Another threat to the species' survival is an apparent lack of reproduction success. Potential threats include water pollution, interbasin transfers of water, hybridization of the species with the more abundant shovelnose sturgeon, and continuing alteration of remaining spawning or nursery areas.

In addition to the pallid, two other species (the paddlefish and fluvial Arctic grayling) are being considered for classification under the Endangered Species Act.



Paddlefish...

In June 1989 the USFWS received a petition from an individual to list the **paddlefish** as threatened. In April of 1990, the USFWS determined that the petition had merit and requested that agencies and individuals provide additional information that would aid in making a determination of the status of the paddlefish. Montana has not supported listing the paddlefish because MDFWP data indicate populations in Montana are healthy.

The paddlefish, like the pallid, is an ancient fish that evolved in large river systems. The species' range is wide and was originally found in 26 of the interior states, although it no longer occurs in four of these states or in Canada.

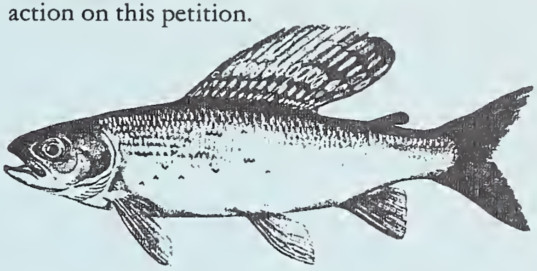
Spawning needs of paddlefish are very specific and suitable conditions are rare throughout its range. Only five natural spawning areas remain. In Montana, paddlefish spawn in the Yellowstone River below Intake, in the Wild and Scenic Missouri River above Ft. Peck, and in the Milk River during years of high flows. Channelization and construction of dams are the main reasons for destruction or modification of the species' habitat.

Increased prices for paddlefish caviar have resulted in an increase in poaching throughout the species range. The paddlefish is very susceptible to illegal harvest methods. Many elaborate and sophisticated paddlefish poaching operations have been uncovered in the southeastern United States over the years.

The USFWS has not yet reached a final decision on the listing of the paddlefish. The USFWS has prepared a proposed position for adding the paddlefish to Appendix I of the Convention on International Trade in Endangered Species (CITES). CITES regulates international trade in certain animal and plant species. The United States may propose to add the paddlefish to Appendix I of the treaty at the March 1992 meeting in Kyoto, Japan. If the proposal is adopted, this would protect the paddlefish (specifically its roe) from all international trade and would allow state and federal law enforcement personnel to effectively track unauthorized shipments of caviar from the U.S. Since Europe is the primary market for paddlefish caviar, addition of the paddlefish to the treaty could significantly limit poaching, one of the main threats to the species survival.

Fluvial (River Dwelling) Arctic Grayling...

In addition to the paddlefish, on October 2, 1991, the USFWS received a petition to list the **fluvial Arctic grayling** as endangered throughout its known historic range in the lower 48 states. USFWS has not yet taken any action on this petition.



Over the past several years, the Montana Department of Fish, Wildlife and Parks (MDFWP) and other agencies and organizations have taken steps to protect the fluvial Arctic grayling (grayling). Grayling historically were found discontinuously in the Missouri River and its tributaries upstream from Great Falls. Today it is found only in the Big Hole River, although lake populations are found in several locations. It is unclear whether the Madison River population, which appears to use Ennis Reservoir extensively, is fluvial (river dwelling) or lake dwelling.

In July, the MDFWP and the Bureau of Land Management, Forest Service, USFWS, Montana Council of Trout Unlimited and Montana Chapter of American Fisheries signed a Memorandum of Understanding establishing a five-year recovery program for the grayling. Pat Byorth was hired in August to spearhead the recovery program. In addition to the funds provided by the signing entities, a $25,000 challenge grant has been received from the U.S. Fish and Wildlife Foundation. Additional grant funds will be sought to help finance the project.

The on-going recovery program was established prior to the USFWS receiving the petition to list the grayling. The MDFWP does not believe that listing the grayling will significantly increase recovery efforts over those already established.

River Conservation

Continued

To date, MDFWP's primary accomplishments in protecting water for instream flow purposes, centered on claiming water in those streams authorized by the 1969 Murphy legislation and in applying for instream flow reservations for the Yellowstone River and most of its tributaries. The Yellowstone River basin application led to the granting of an instream flow reservation by the Board of Natural Resources and Conservation in 1978. The present application for a reservation of flow in the upper Missouri River basin and many of its tributaries continues MDFWP's efforts to protect and enhance Montana's fish, wildlife and recreational resources.

Water Awareness Month - January 1992

The future of Montana's water resources is in our hands. Young, old, and all ages in-between, every citizen in Montana is a water user. Sometimes we recognize this fact. Other times, we forget.

Governor Stan Stephens has proclaimed January 1992 as WATER AWARENESS MONTH in Montana for the purpose of drawing public attention to the importance of Montana's water and the ways we use and affect it, as well as the complexities of managing it.

Each of us has a role to play in sustaining our state's high quality of water resources. We all share the responsibility to conserve and properly manage our most precious resource—water.

Some reasons to care about Montana's water:

- The state of Montana shares its waters with nine other states and three Canadian provinces.
- Montana's water isn't pure. Industrial, agricultural, and domestic chemicals, sewage, and sediments are the most significant water quality problems affecting aquatic life in Montana's rivers, streams, and lakes.
- Montana's economy depends on a clean and viable water supply for agriculture, recreation, tourism, hydroelectric production, industry, fish and wildlife, and municipal and rural water supplies.
- A person can't own Montana's water, but can own rights to use it. The Montana Constitution says that all state waters are held by the state on behalf of its citizens.

Montana's Water Poster is the work of Helena artist Shirley Cleary. Shirley has lived in Montana since 1971 and has worked as a full time artist since 1979. Articles on her work have appeared in American Artist, Art West, Wildlife Art News and twice in Fly Fishers' Magazine. Her angling illustrations have appeared in Fly Fishing, Fly Fishing Quarterly, Fly Fishing News, the Fly Fishers, Fly Fishing Heritage and Montana Outdoors magazines. Cleary won the 1990 Oregon Trout Stamp/Print competition and, in 1991, the Association of Northwest Steelheaders Stamp/Print competition.

If you would like to share your views or offer suggestions, please send them to FISH LINE, Department of Fish, Wildlife and Parks, Fisheries Division, 1420 East Sixth Avenue, Helena, MT 59620, (406) 444-2449.

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Calendar of Events — January 1992 - March 1992

January 1992	Water Awareness/Education Month
January 15, 1992	Fish, Wildlife and Parks Commission Meeting, Helena
January 17-19, 1992	Winter Lake Ecology Workshop, Canyon Ferry Limnological Institute, Canyon Ferry Lake
January 31-February 1, 1992	Wet & Wild Workshop, Miles City
February 1992	Missouri Basin Water Reservation Contested Case and Public Hearings
February 3-7, 1992	Montana Chapter American Fisheries Society Annual Meeting, Fairmont Hot Springs Resort
February 4, 1992	Project Wild Aquatic Workshop, Great Falls
February 6-7, 1992	Fish, Wildlife and Parks Commission Meeting, Helena
March 1, 1992	New fishing season—new regulations apply—new fishing license required, and River Restoration Project Applications due
March 13, 1992	Fish, Wildlife and Parks Commission Meeting, Helena

Produced by the Fisheries Division of the Department of Fish, Wildlife and Parks.

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Montana Department of Fish, Wildlife & Parks